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SPECIFICATION FOR METAL HEALD FRAMES FOR FLAT STEEL HEALDS

(Second Revision)

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Indian Standard

SPECIFICATION FOR METAL HEALD FRAMES FOR FLAT STEEL HEALDS

(Second Revision)

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(*Continued on page* 9)

Indian Standard

SPECIFICATION FOR METAL HEALD FRAMES FOR FLAT STEEL HEALDS

(Second Revision)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 10 August 1984, after the draft finalized by the Cotton Weaving Machinery Components Sectional Committee had been approved by the Textile Division Council.

0.2 The standard first published in 1965 was revised in 1970. The standard has been revised again to provide for conformity of the following dimensions to the corresponding International Standards which have been adopted as Indian Standards (*see* **4.1** and **4.2**):

a) Thickness of frame staves,
b) Thickness of lateral supports,
c) Clearance between frame staves,
d) Clearance between lateral supports, and
e) Cross-sectional dimensions of heald carrying rods.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements of metal heald frames for flat steel healds.

2. MATERIAL

2.1 Staves — Anodized and polished extruded hollow aluminium alloy sections shall be used for fabricating staves.

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*Rules for rounding off numerical values (*revised*).

2.2 Lateral Supports — The lateral supports shall be made of plated mild steel, compressed laminated wood [*see* IS : 3513 (Part 3)-1966*] or compressed wood having minimum specific gravity of 0·8.

2.3 Heald Carrying Rods — Hardened and tempered high carbon steel strip shall be used for fabricating heald rods which shall be straight (without bends or kinks) and shall have rounded edges to allow free movement of healds.

2.4 Sliding Hooks — Sliding hooks including raising and lowering hooks shall be made of steel. Hook portion shall preferably be made of hardened steel.

NOTE — If agreed to between the buyer and the seller, raising as well as lowering hooks may be made of the same design.

3. MANUFACTURE

3.1 Metal heald frames with steel lateral supports and with wooden lateral supports shall generally be as shown in Fig. 1 and 2 respectively. To achieve additional stability, heald carrying rods shall be supported by sliding hooks fixed at an interval of approximately 20 cm on the top and bottom staves along the width of the frame. All the surfaces should be smoothly finished and edges should be smoothly rounded off. The lateral supports and heald carrying rods shall be given anti-rust finish.

NOTE — If prescribed by the buyer, the following may be provided:

a) three raising and lowering hooks,

b) sliding hooks for supporting heald carrying rods at an interval of less than 20 cm,

c) nylon insertions in wooden lateral supports, and

d) vertical centre supports.

4. DIMENSIONS

4.1 The thickness of frame staves, thickness of lateral supports, clearance between frame staves and clearance between lateral supports shall conform to IS : 10936-1984†.

4.1.1 The width of staves shall be 48, 60, 68 or 76 mm depending upon the overall depth of the frame subject to a tolerance of ±1 mm.

4.2 The cross-sectional dimensions of heald carrying rods shall conform to IS : 10948-1984‡.

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*Specification for high and medium density wood-based laminates (compreg) : Part 3 General purposes.

†Co-ordinated dimensions of heald frames in relation to the pitch of the harness.

‡Dimensions of heald carrying rods for healds with closed '0' shaped end loops.

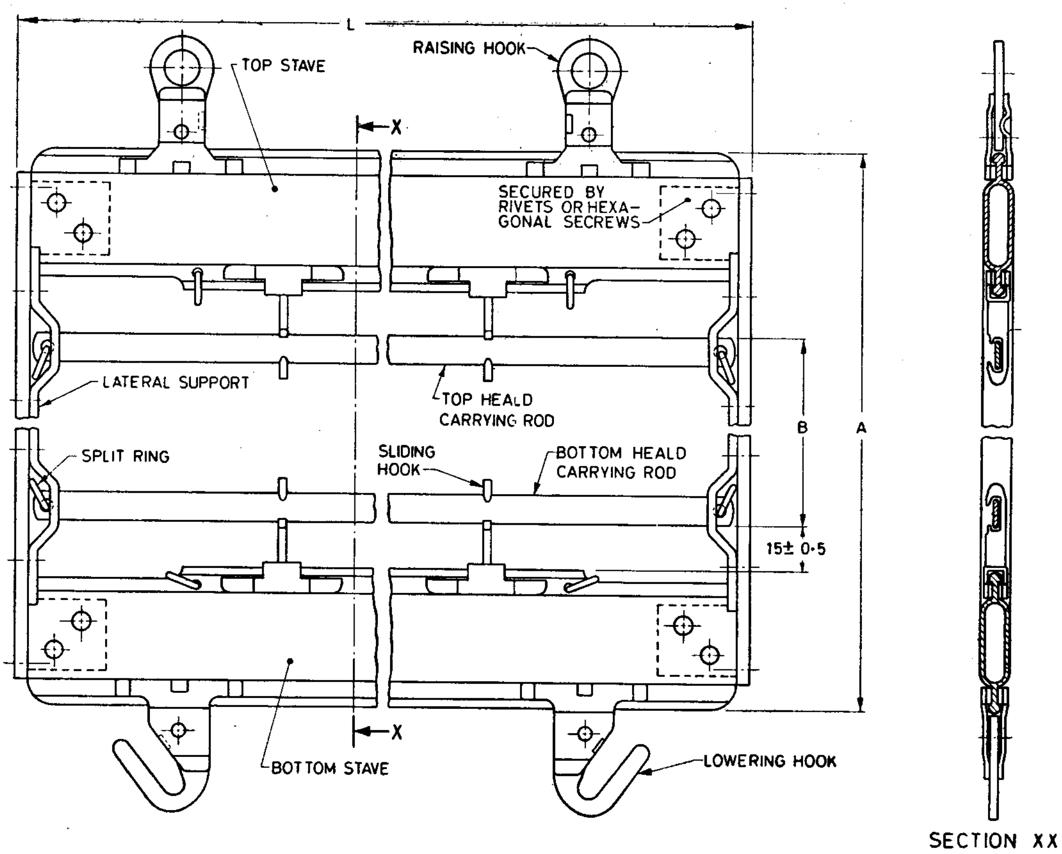
4.3 The overall width *L* of the frame shall be as agreed to between the buyer and the seller. A tolerance of ±2 mm shall, however, be permitted on the overall width.

4.4 Other dimensions for metal heald frames shall be as given in Table 1 and Fig. 1 or 2 as the case may be.

TABLE 1 DIMENSIONS OF METAL HEALD FRAMES

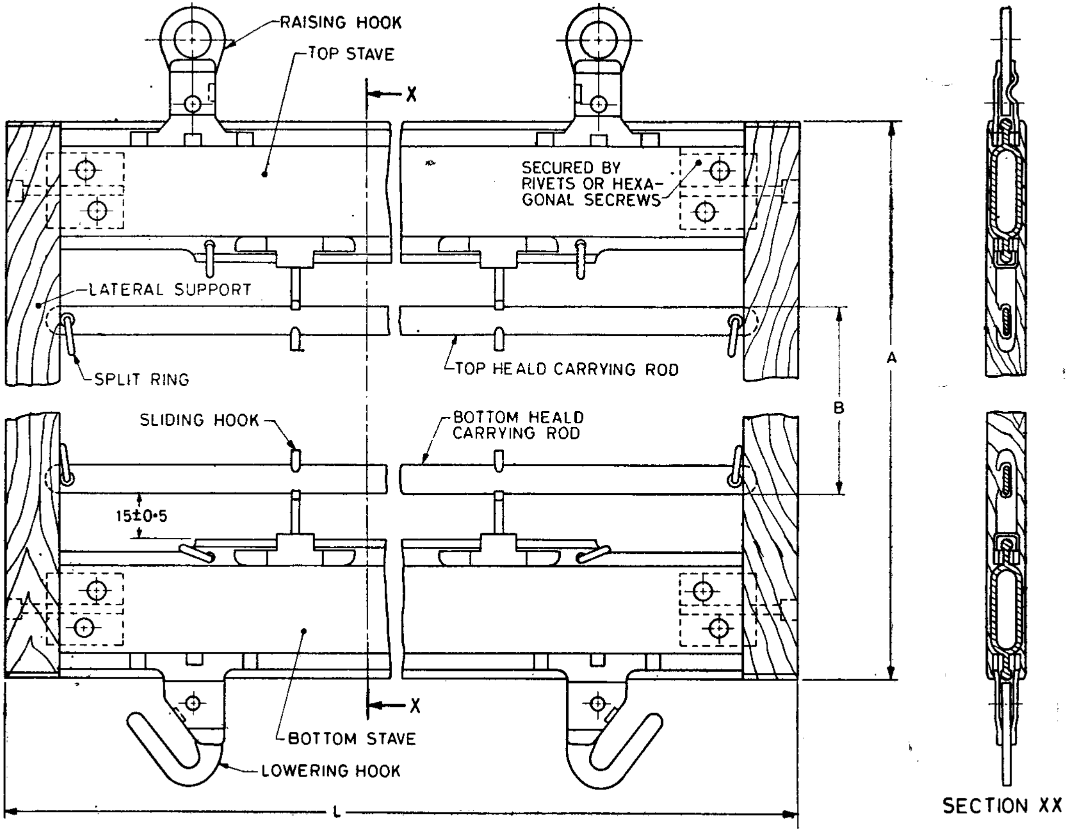
All dimensions in millimetres.

Length of Heald to be Mounted on the Frame	Overall Depth of Frame, *A*	Distance Between Heald Carrying Rods, *B*
280	401 425 440 457	275·0
300	421 445 460 477	295·0
330	451 475 490 507	325·0
340	461 485 500 517	335·0
360	481 505 520 537	355·0
380	501 525 540 557	375·0
420	541 565 580 597	415·0
450	571 595 610 627	445·0
Tolerance:	± 2	± 0·5



All dimensions in millimetres.

FIG. 1 METAL HEALD FRAME WITH STEEL LATERAL SUPPORT



All dimensions in millimetres.

FIG. 2 METAL HEALD FRAME WITH WOODEN LATERAL SUPPORT

5. MARKING AND PACKING

5.1 Each metal heald frame shall be marked with the following on the top stave:

a) Manufacturer's name, initials or trade-mark, if any; and

b) Length of heald to be mounted, overall width and depth of the frame and thickness of staves (all in millimetres).

5.1.1 Each metal heald frame may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors may be obtained from the Indian Standards Institution.

5.2 Packing — Each frame shall be wrapped in waxed paper with sufficient overlap. A convenient number of wrapped frames shall be packed in a wooden case, crate or cardboard box.

5.2.1 Each case shall be marked with the following:

a) Manufacturer's name, initials or trade-mark, if any;

b) Number of frames in the case; and

c) Length of heald to be mounted, overall width and depth of the frame and thickness of staves (all in millimetres).

6. SAMPLING AND INSPECTION

6.1 Unless otherwise agreed to between the buyer and the seller, to ascertain the conformity of metal heald frames to the requirements of this specification, single sampling plan with Inspection Level I and Acceptable Quality Level (AQL) of 2·5 percent given in Tables 1 and 2 of IS : 2500 (Part 1)-1973* shall be followed.

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*Sampling inspection tables: Part 1 Inspection by attributes and by count of defects (*first revision*).

(*Continued from page* 2)

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Base Units

Quantity	*Unit*	*Symbol*
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	*Unit*	*Symbol*
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	*Unit*	*Symbol*	*Definition*
Force	newton	N	1 N = 1 kg.m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Ps	1 Pa = 1 N/m^2

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